Tuesday, February 10, 2004 3:37:56 PM

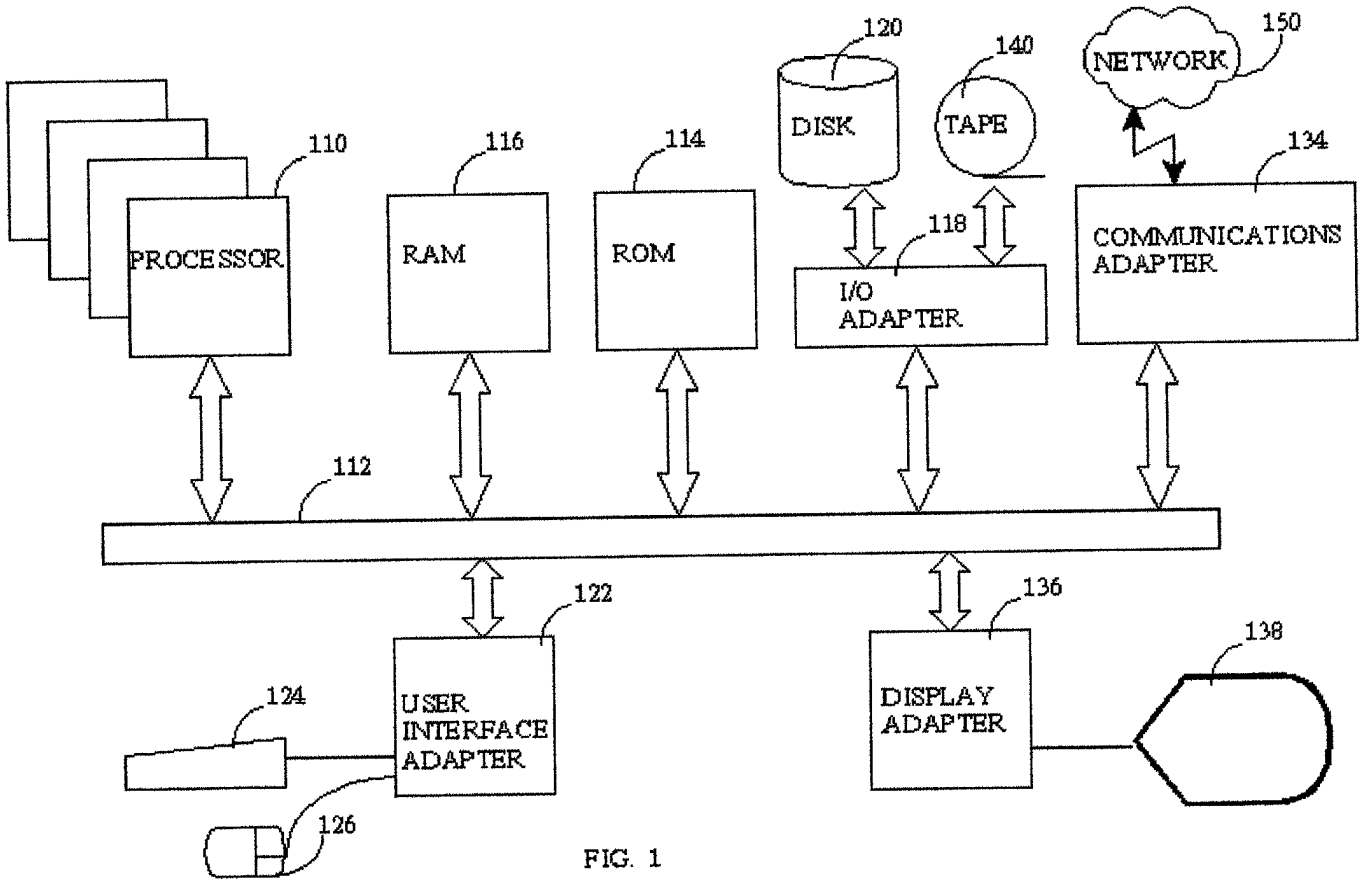


FIG. 1

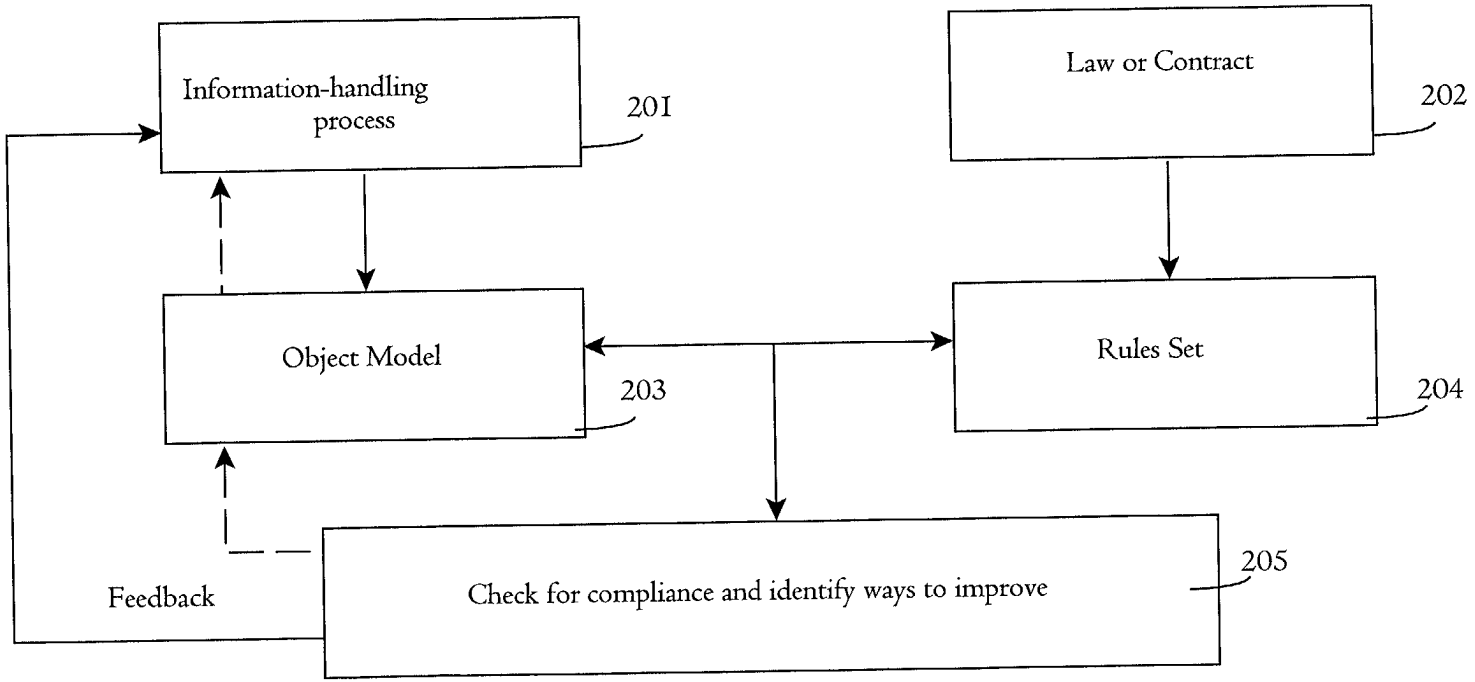
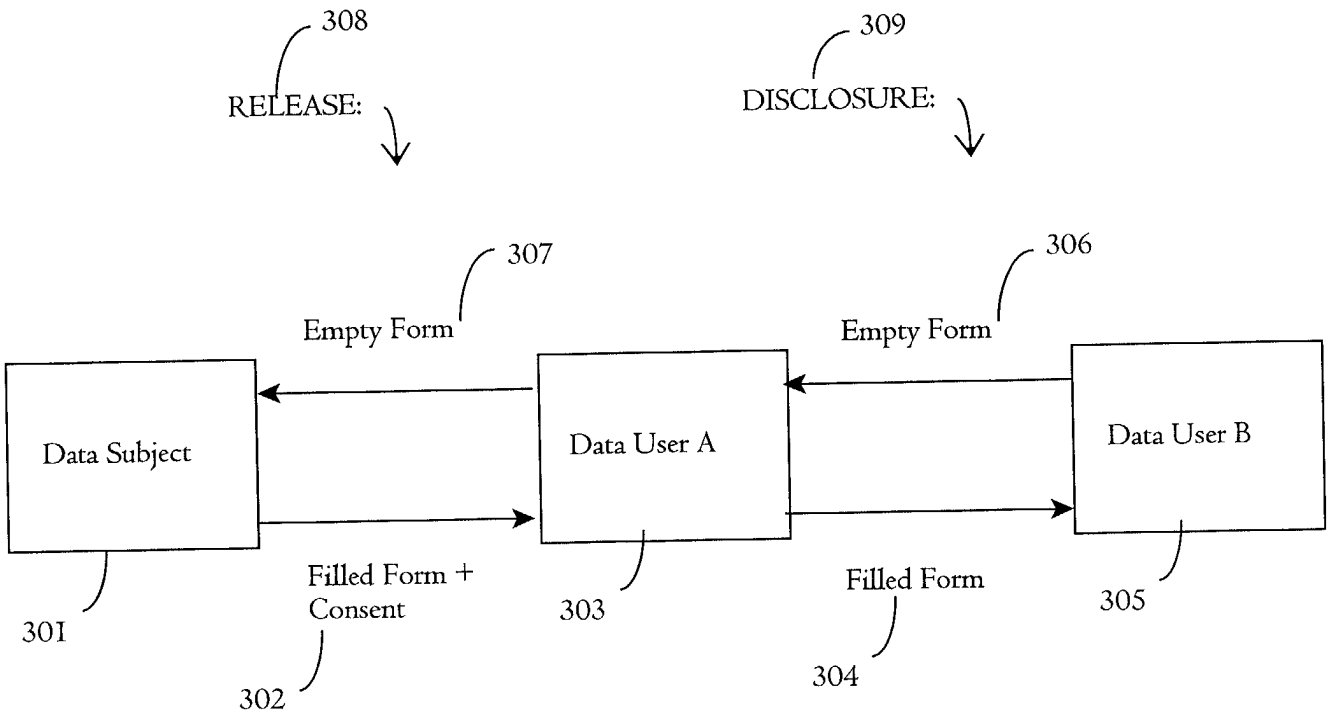

Information-handling process
201
Law or Contract
202
Object Model
203
Rules Set
204
Feedback
Check for compliance and identify ways to improve
205

FIG. 2



Empty Form: = Form Fields + Privacy Policy
Filled Form: = Empty Form + Collected Data

FIG. 3

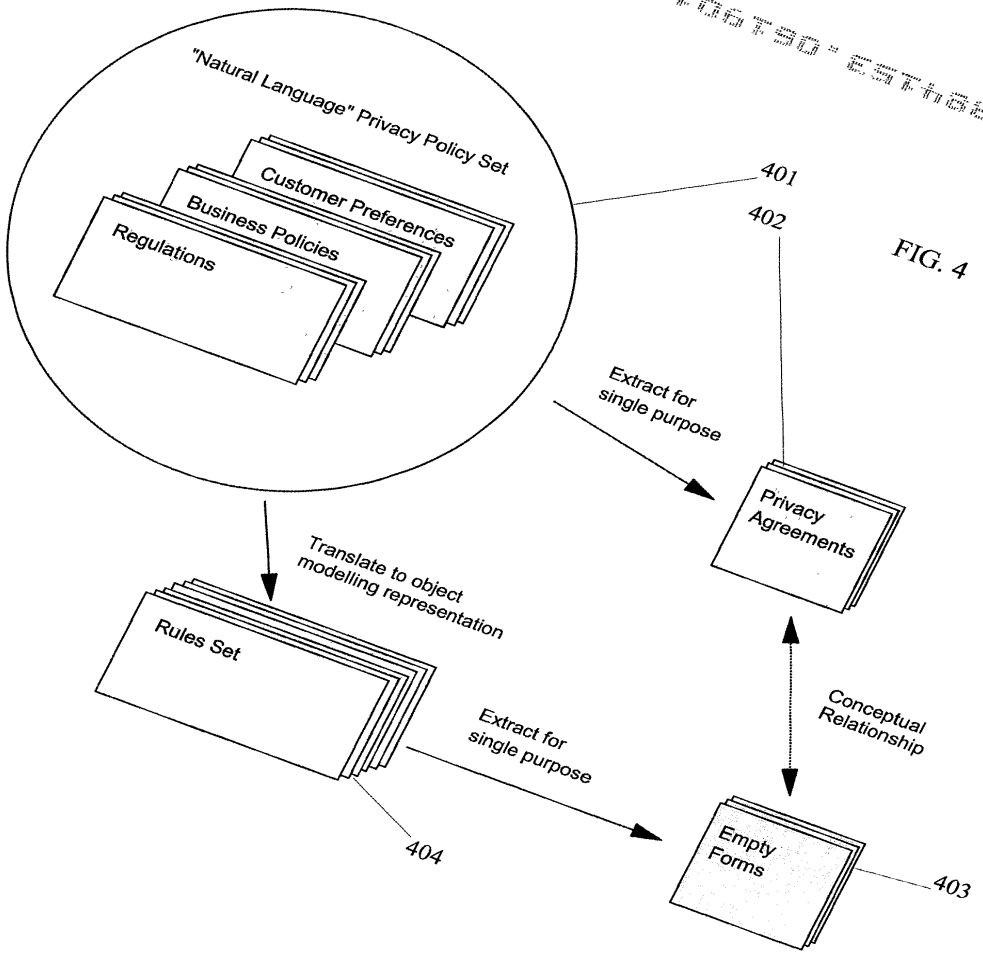

"Natural Language" Privacy Policy Set
Customer Preferences
Business Policies
Regulations
401
402
Extract for single purpose
Privacy Agreements
Translate to object modelling representation
Rules Set
Extract for single purpose
Conceptual Relationship
Empty Forms
403
404

FIG. 4

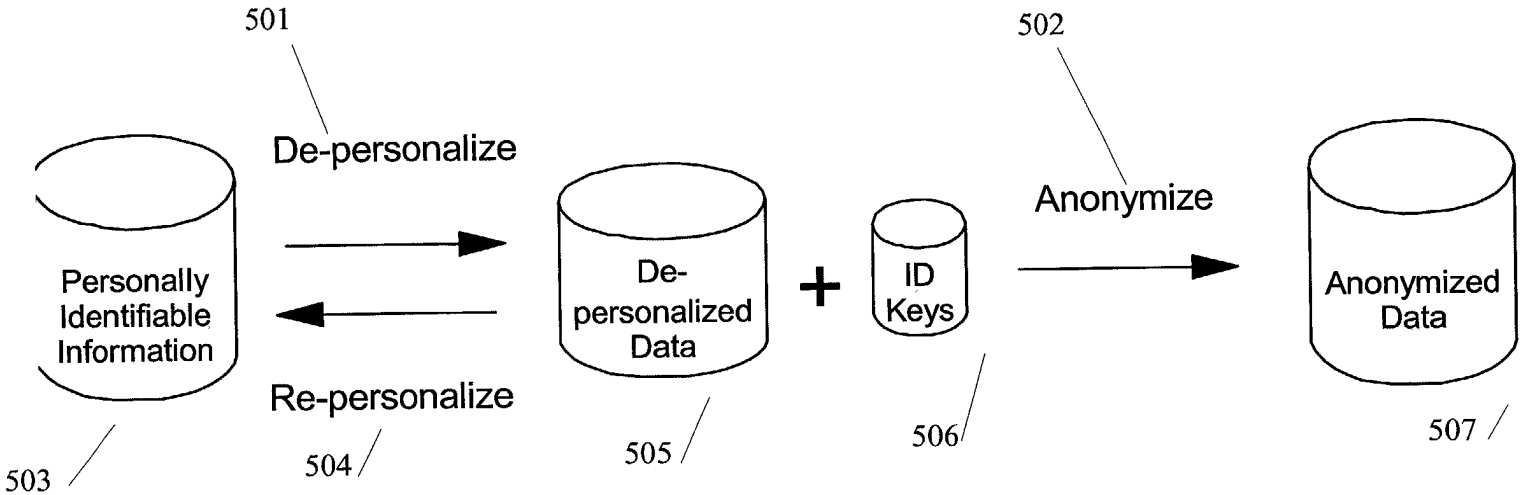
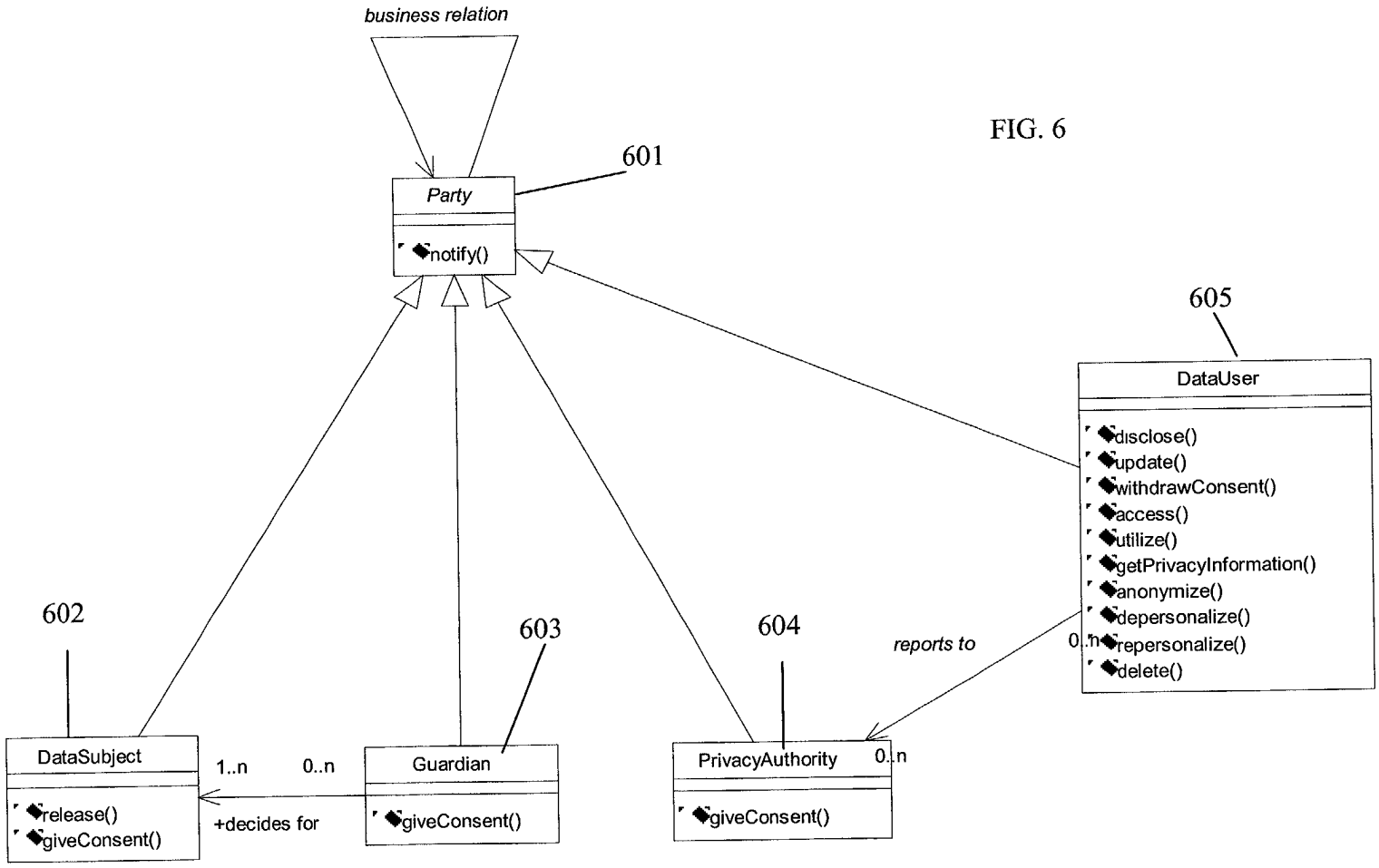

501
De-personalize
Personally Identifiable Information
Re-personalize
503
504
De-personalized Data
505
+
ID Keys
506
502
Anonymize
Anonymized Data
507

FIG. 5

FIG. 6


business relation
601
Party
notify()
605
DataUser
disclose()
update()
withdrawConsent()
access()
utilize()
getPrivacyInformation()
anonymize()
depersonalize()
repersonalize()
delete()
602
603
604
reports to
0..n
DataSubject
release()
giveConsent()
1..n
0..n
+decides for
Guardian
giveConsent()
PrivacyAuthority
giveConsent()
0..n

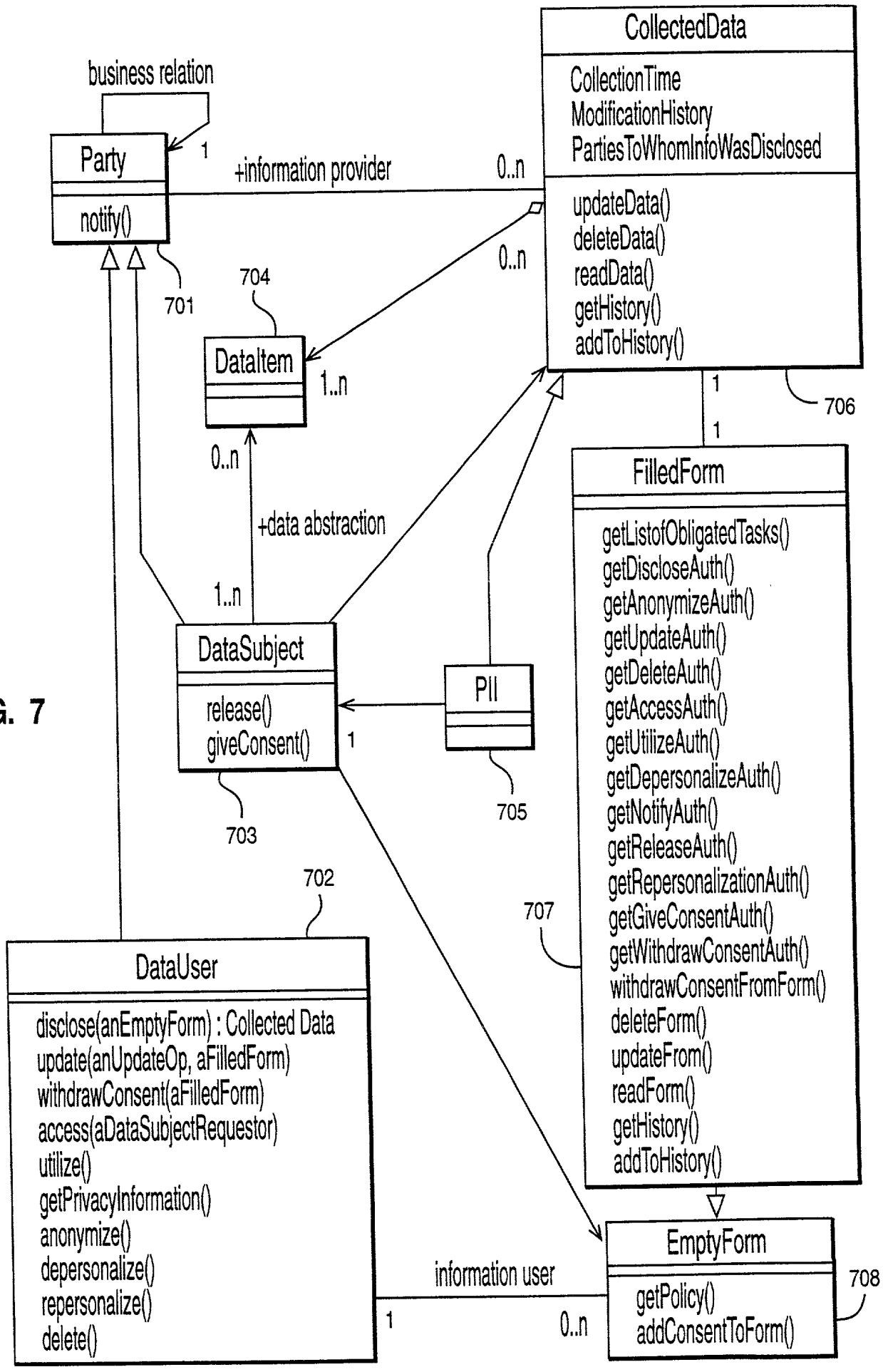

CollectedData
CollectionTime
ModificationHistory
PartiesToWhomInfoWasDisclosed
updateData()
deleteData()
readData()
getHistory()
addToHistory()
business relation
Party
notify()
1
+information provider
0..n
0..n
701
704
DataItem
1..n
0..n
+data abstraction
1..n
1
706
1
FilledForm
getListofObligatedTasks()
getDiscloseAuth()
getAnonymizeAuth()
getUpdateAuth()
getDeleteAuth()
getAccessAuth()
getUtilizeAuth()
getDepersonalizeAuth()
getNotifyAuth()
getReleaseAuth()
getRepersonalizationAuth()
getGiveConsentAuth()
getWithdrawConsentAuth()
withdrawConsentFromForm()
deleteForm()
updateFrom()
readForm()
getHistory()
addToHistory()
DataSubject
release()
giveConsent()
1
PII
705
703
702
707
DataUser
disclose(anEmptyForm) : Collected Data
update(anUpdateOp, aFilledForm)
withdrawConsent(aFilledForm)
access(aDataSubjectRequestor)
utilize()
getPrivacyInformation()
anonymize()
depersonalize()
repersonalize()
delete()
information user
1
0..n
EmptyForm
getPolicy()
addConsentToForm()
708

FIG. 7

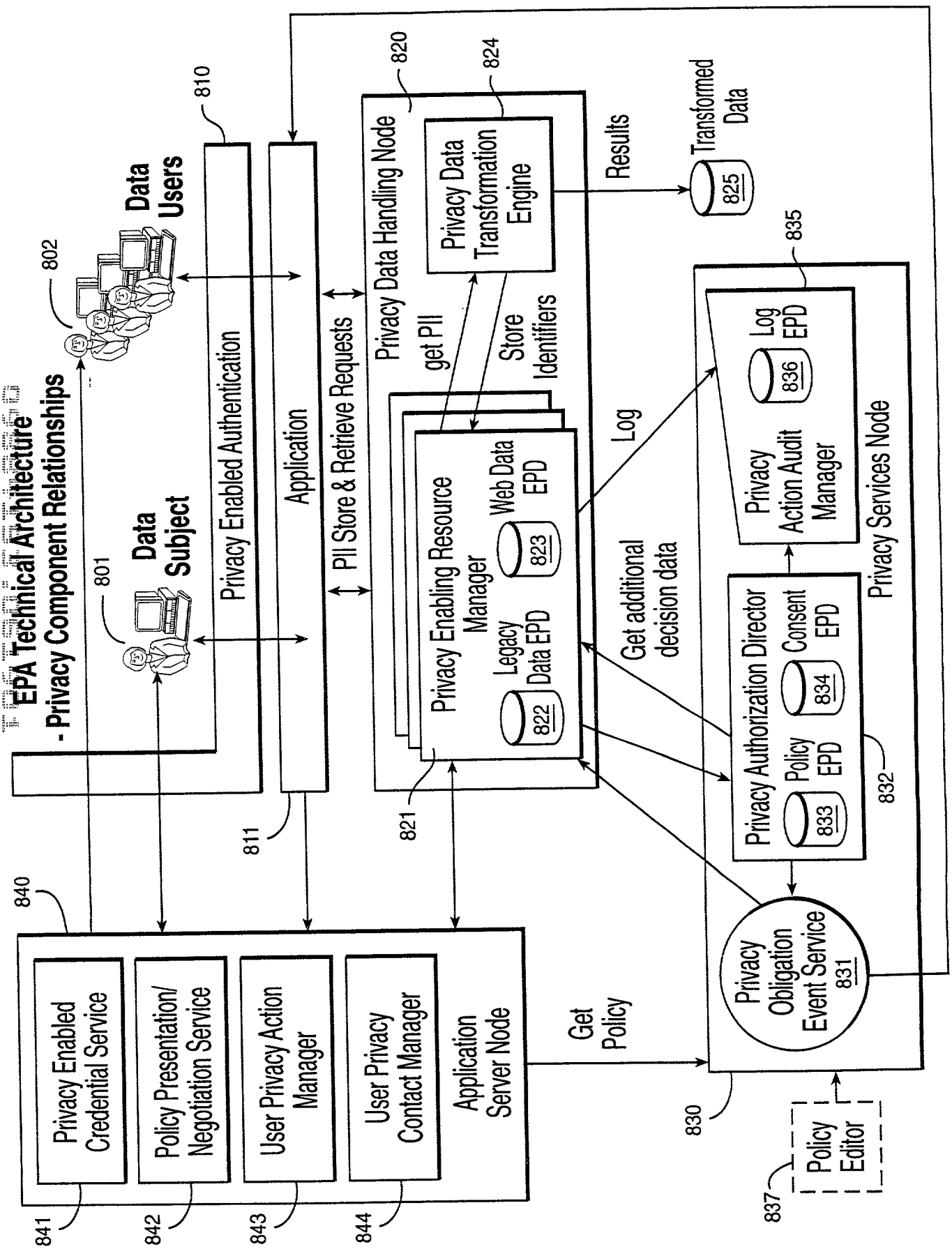


FIG. 8

© 2001 IBM

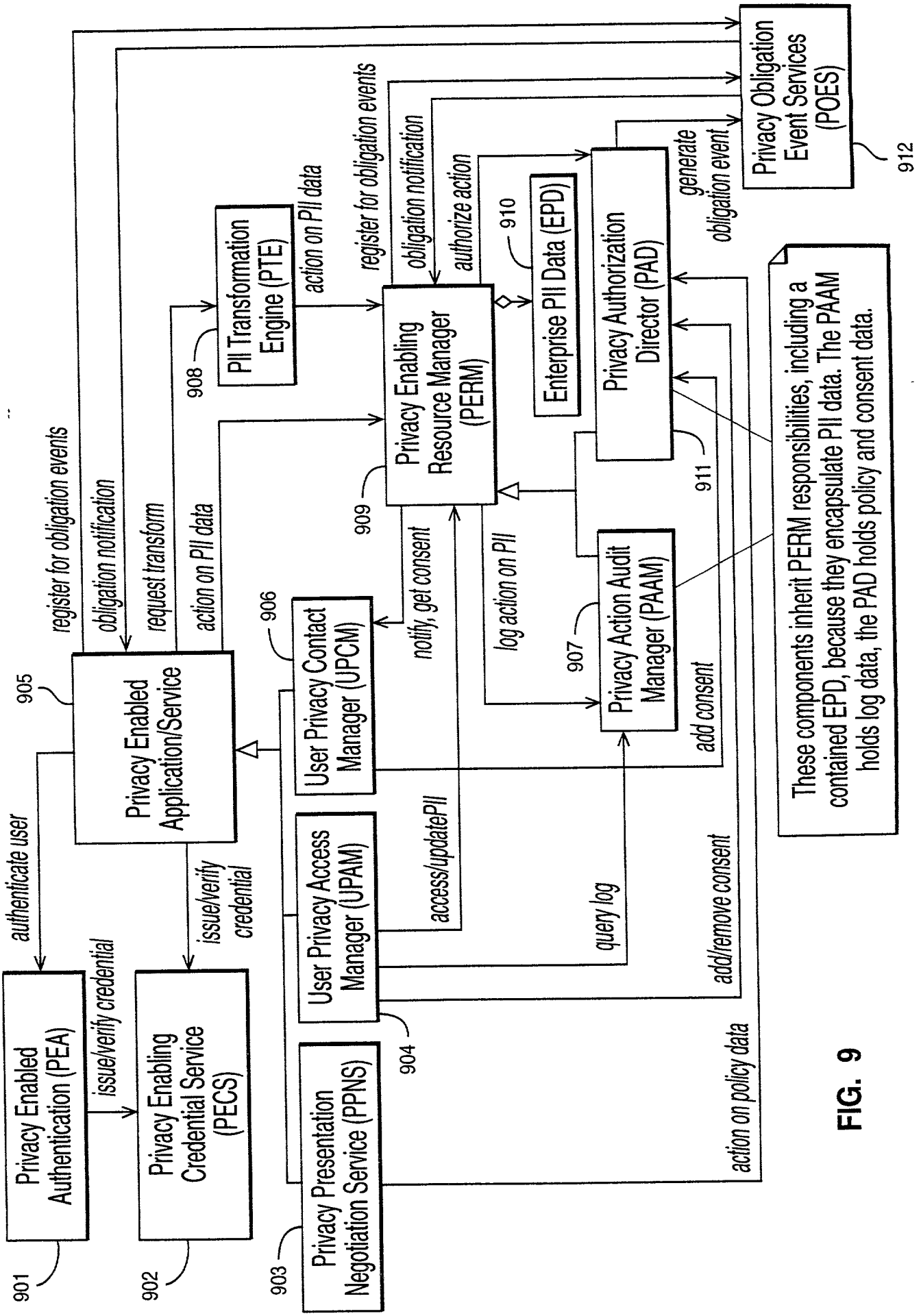

Privacy Component Relationships
Privacy Enabled Authentication (PEA)
Privacy Enabling Credential Service (PECS)
Privacy Presentation Negotiation Service (PPNS)
User Privacy Access Manager (UPAM)
User Privacy Contact Manager (UPCM)
Privacy Enabled Application/Service
Privacy Enabling Resource Manager (PERM)
Privacy Action Audit Manager (PAAM)
Privacy Authorization Director (PAD)
Enterprise PII Data (EPD)
PII Transformation Engine (PTE)
Privacy Obligation Event Services (POES)
These components inherit PERM responsibilities, including a contained EPD, because they encapsulate PII data. The PAAM holds log data, the PAD holds policy and consent data.
901
902
903
904
905
906
907
908
909
910
911
912
authenticate user
issue/verify credential
issue/verify credential
register for obligation events
obligation notification
request transform
action on PII data
register for obligation events
action on PII data
obligation notification
authorize action
generate obligation event
notify, get consent
log action on PII
access/updatePII
query log
add consent
add/remove consent
action on policy data

FIG. 9

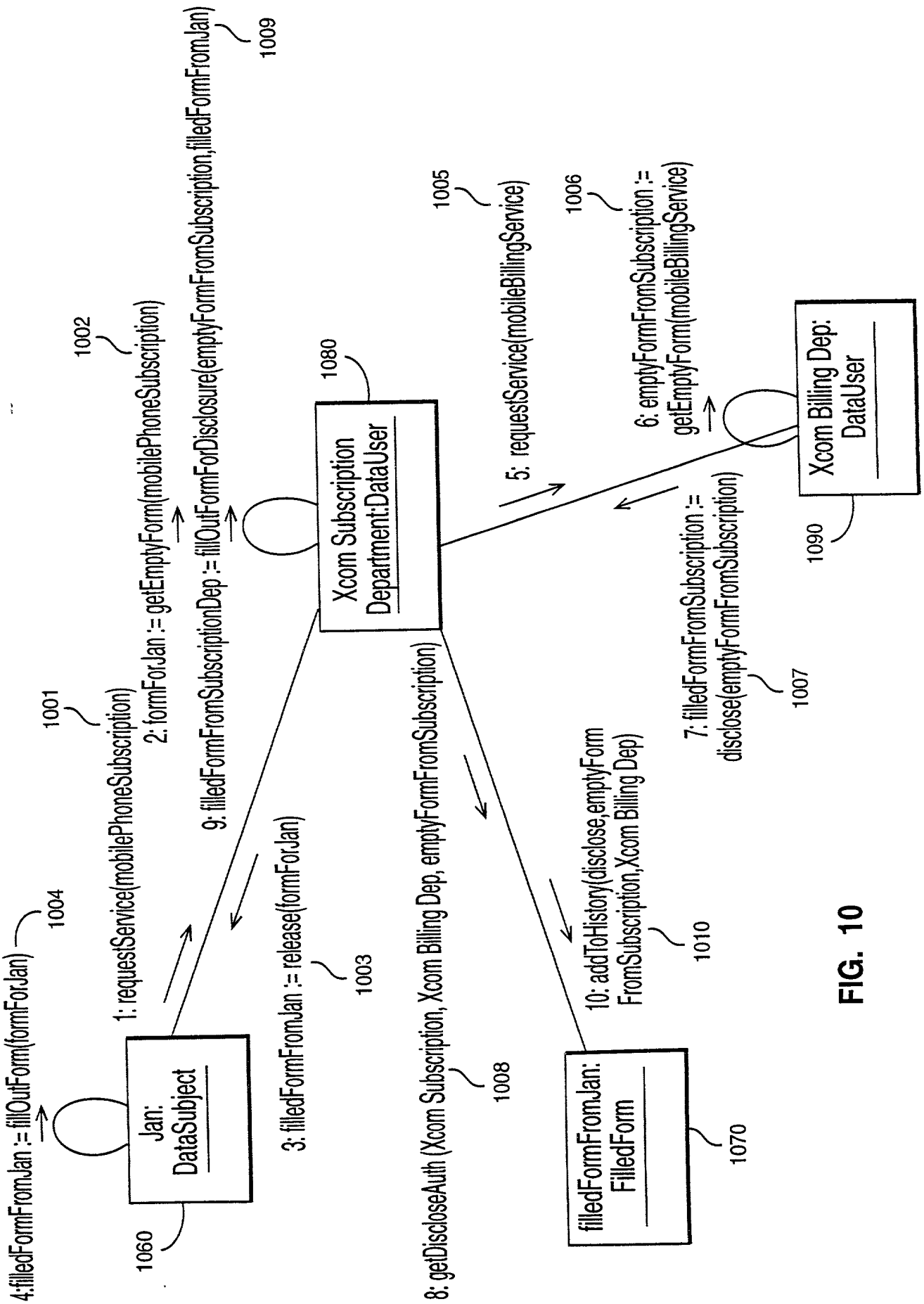

Jan:
DataSubject
1060
Xcom Subscription
Department:DataUser
1080
Xcom Billing Dep:
DataUser
1090
filledFormFromJan:
FilledForm
1070
1: requestService(mobilePhoneSubscription)
1001
2: formForJan := getEmptyForm(mobilePhoneSubscription)
1002
3: filledFormFromJan := release(formForJan)
1003
4:filledFormFromJan := fillOutForm(formForJan)
1004
5: requestService(mobileBillingService)
1005
6: emptyFormFromSubscription := getEmptyForm(mobileBillingService)
1006
7: filledFormFromSubscription := disclose(emptyFormFromSubscription)
1007
8: getDiscloseAuth (Xcom Subscription, Xcom Billing Dep, emptyFormFromSubscription)
1008
9: filledFormFromSubscriptionDep := fillOutFormForDisclosure(emptyFormFromSubscription,filledFormFromJan)
1009
10: addToHistory(disclose,emptyForm FromSubscription,Xcom Billing Dep)
1010

FIG. 10

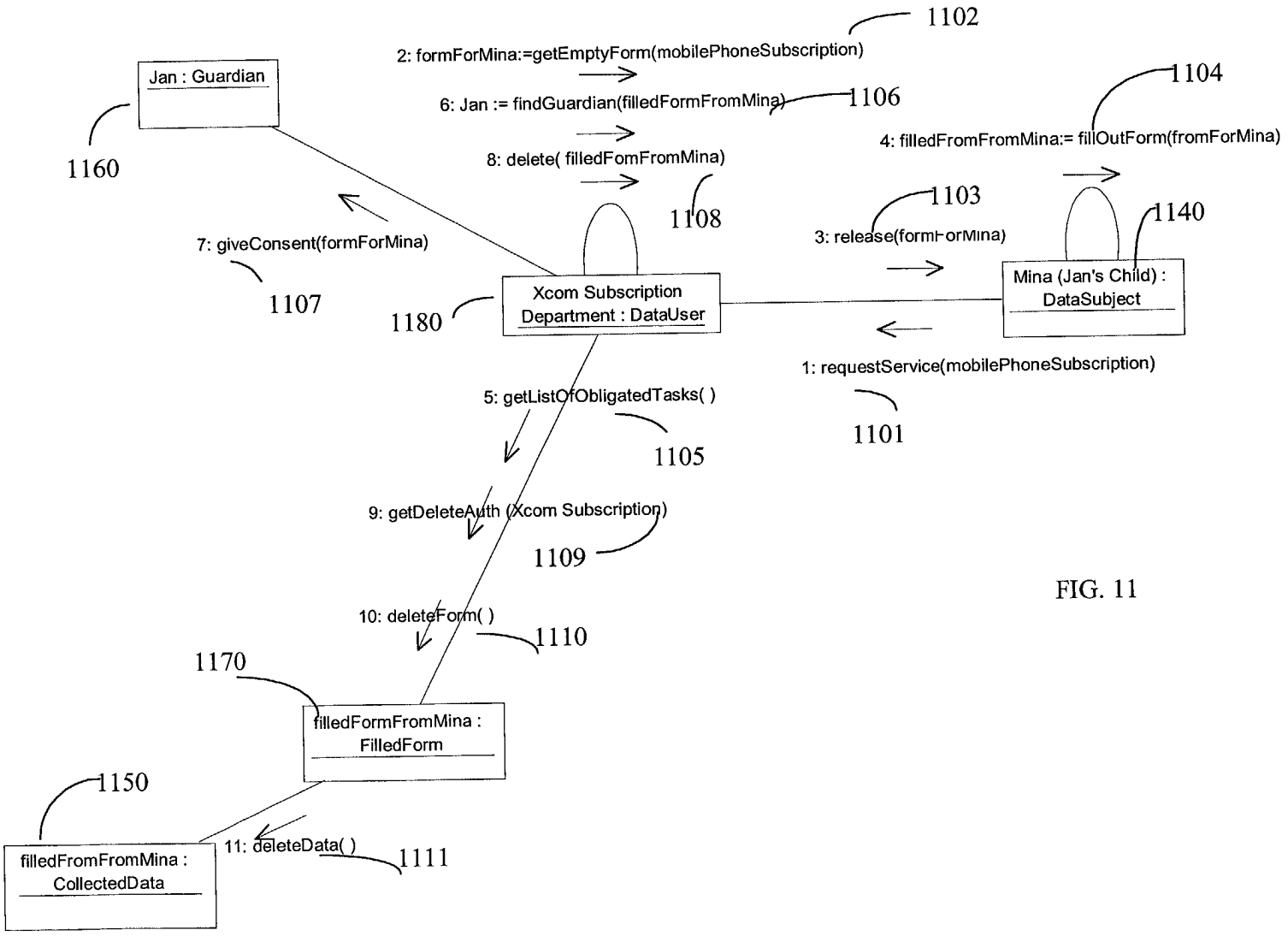
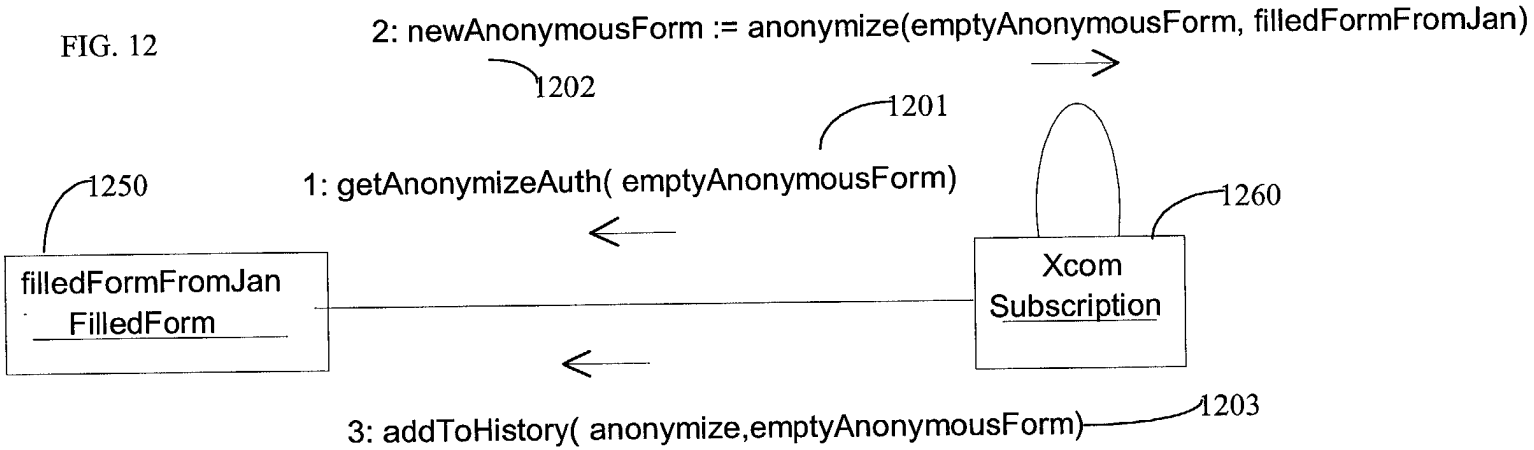

1102
2: formForMina:=getEmptyForm(mobilePhoneSubscription)
Jan : Guardian
1160
6: Jan := findGuardian(filledFormFromMina)
1106
1104
4: filledFromFromMina:= fillOutForm(fromForMina)
8: delete(filledFomFromMina)
1108
1103
1140
3: release(formForMina)
7: giveConsent(formForMina)
1107
1180
Xcom Subscription Department : DataUser
Mina (Jan's Child) : DataSubject
1: requestService(mobilePhoneSubscription)
1101
5: getListOfObligatedTasks( )
1105
9: getDeleteAuth (Xcom Subscription)
1109
10: deleteForm( )
1110
1170
filledFormFromMina : FilledForm
1150
11: deleteData( )
1111
filledFromFromMina : CollectedData

FIG. 11

FIG. 12


2: newAnonymousForm := anonymize(emptyAnonymousForm, filledFormFromJan)
1202
1201
1250
1: getAnonymizeAuth(emptyAnonymousForm)
1260
filledFormFromJan
FilledForm
Xcom
Subscription
3: addToHistory(anonymize,emptyAnonymousForm)
1203

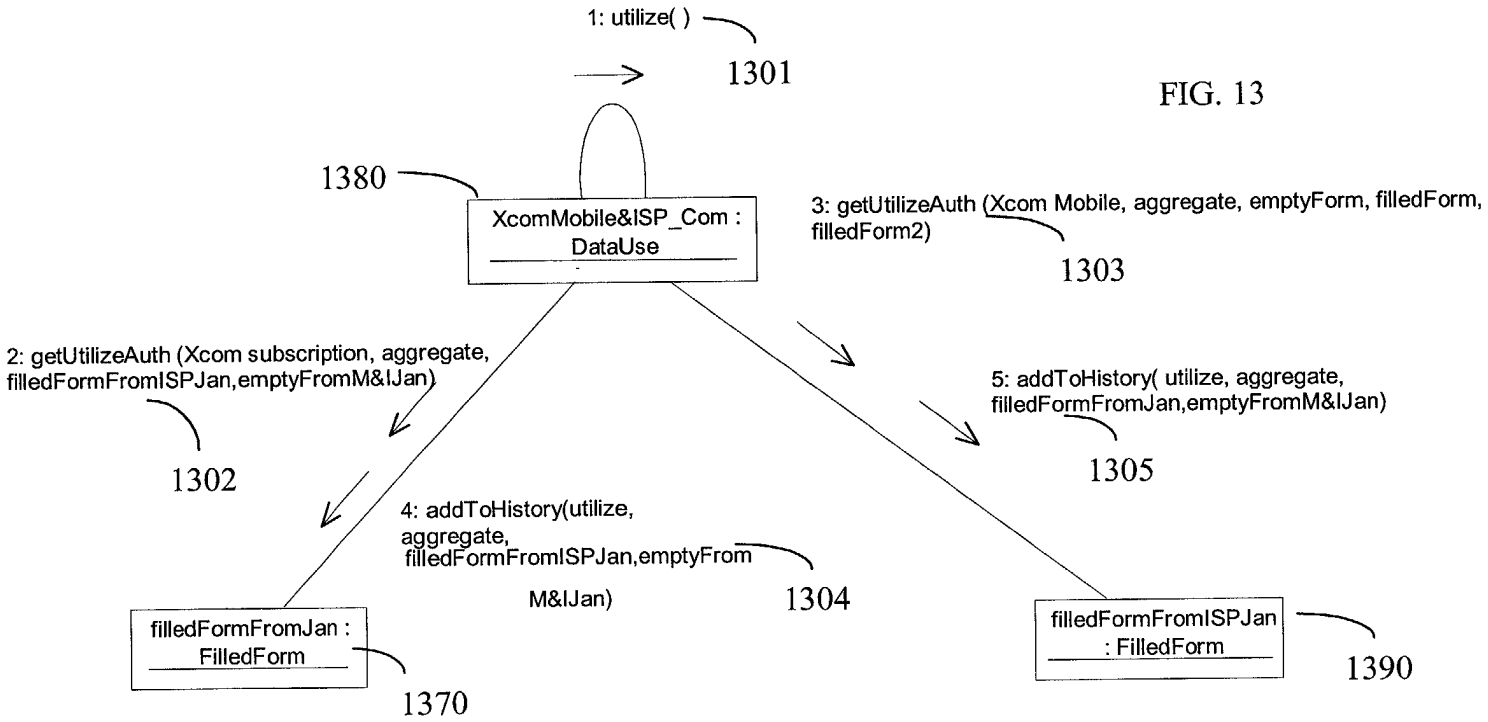
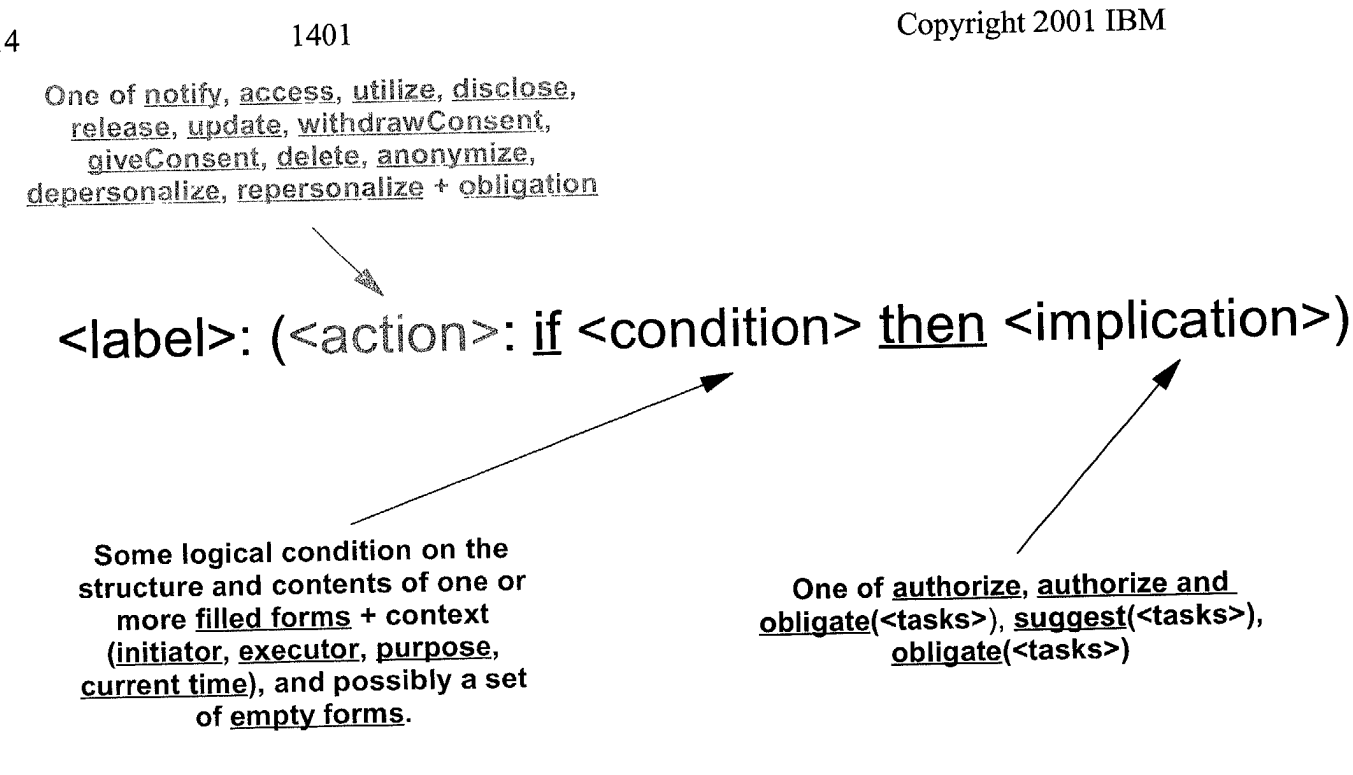

1: utilize( )
1301
1380
XcomMobile&ISP_Com :
DataUse
3: getUtilizeAuth (Xcom Mobile, aggregate, emptyForm, filledForm, filledForm2)
1303
2: getUtilizeAuth (Xcom subscription, aggregate, filledFormFromISPJan,emptyFromM&IJan)
1302
5: addToHistory(utilize, aggregate, filledFormFromJan,emptyFromM&IJan)
1305
4: addToHistory(utilize, aggregate, filledFormFromISPJan,emptyFrom M&IJan)
1304
filledFormFromJan :
FilledForm
1370
filledFormFromISPJan
: FilledForm
1390

FIG. 13

FIG. 14



Copyright 2001 IBM